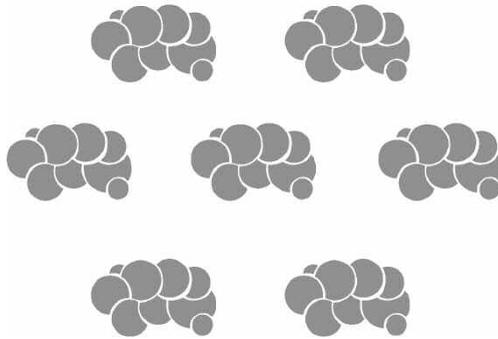


*Depopulation and Public Policies  
in Rural Central Europe. The Hungarian  
and Polish Cases*



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## ***Depopulation and Public Policies in Rural Central Europe. The Hungarian and Polish Cases***

### *Highlights:*

1. Polish and Hungarian societies have a much higher proportion of rural population than the major north-western European countries (about one third of the total population).
2. Rapid de-agriculturalisation in the early years of the new millennium has been the key factor in the depopulation of rural areas in Hungary and Poland.
3. In Poland, the eastern region is heavily affected by rural out-migration and is the region that will lose the most rural population in the next two decades.
4. In Hungary, the north-eastern and southern Transdanubian counties are the most threatened.
5. At present, although the overall rural population remains more or less stable, the movement towards the main rural centres, responsible for the provision of services, is accelerating depopulation and depopulation.
6. In Hungary, a number of action programmes are strongly linked to governmental projects, while in Poland, initiatives of local societies and civil institutions are predominant in the face of depopulation.

*Abstract:* The aim of this study is to present state and local programs to reduce and stop rural depopulation in two Central European countries (Poland and Hungary). The proportion of the rural population is higher in these countries than in the western half of the continent, so managing migration processes is of great importance. We present the main trends and causes of depopulation and good examples of state and local measures taken against them, as well as urban and rural demographic changes. In addition to the presentation of statistical data, the study also includes and specific cases of certain programs of the main state policies and regional, local projects.

*Keywords:* Rural depopulation, Poland and Hungary, government policy, local programmes.

## ***Despoblación y políticas públicas en la Europa central rural. Los casos de Hungría y Polonia***

### *Ideas clave:*

1. Las sociedades polaca y húngara tienen una proporción de población rural mucho mayor que los principales países de Europa noroccidental (alrededor de un tercio del total de la población).
2. La desagriculturización producida rápidamente en los primeros años del nuevo milenio, ha sido el factor clave de la despoblación del medio rural en Hungría y Polonia.
3. En Polonia, la región oriental se ve muy afectada por la emigración rural, siendo la región que más población rural perderá en las próximas dos décadas.
4. En Hungría, las comarcas del noreste y el sur del Transdanubio son las más amenazadas.
5. En la actualidad, aunque el conjunto de población rural se mantenga más o menos estable, el movimiento hacia los principales núcleos rurales, encargados de la provisión de servicios, está

acelerando la despoblación y el despoblamiento.

6. Frente a la despoblación, en Hungría existen diversos programas de acción fuertemente ligados a proyectos gubernamentales, mientras que en Polonia predominan las iniciativas de las sociedades locales y de las instituciones civiles.

*Resumen:* El objetivo de este estudio es presentar los programas estatales y locales para reducir y detener la despoblación rural en dos países de Europa Central (Hungría y Polonia). La proporción de la población rural es mayor en estos países que en la mitad occidental del continente, por lo que la gestión de los procesos migratorios es de gran importancia. Se presentan los cambios demográficos urbanos y rurales, las principales tendencias y causas de la despoblación, así como algunos buenos ejemplos de medidas estatales y locales adoptadas para combatirla. Junto a la presentación de datos estadísticos que ponen de relieve la situación y cambios, se incluyen casos específicos de determinados programas derivados de las principales políticas estatales, así como proyectos de ámbito tanto local como regional.

*Palabras clave:* Despoblación rural, política estatal, programas locales, Hungría, Polonia.

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## 1. Introduction

One of the very similar features of Polish and Hungarian society is the high proportion of the rural population, which, despite its declining trend, was one-third in both countries even at the turn of the millennium. Rural demographic change has been and remains at the centre of social and political debates, as the political and electoral bulk of the rural population, their role in national culture and identity and their social size have traditionally been dominant. In this study, referring to our work two decades earlier (Starosta *et al.*, 1999; Granberg *et al.*, 2001), we present and compare the processes of depopulation and the policy measures and programs taken against them.

In the period after the systemic changes at the turn of the 1980s and 1990s, due to the introduction of neoliberal policy by the government, rural areas and agriculture began to lose their importance as an employment sector stabilizing the migration processes within the two countries. Workplaces related to farming servicing decreased. State-owned farms were also closed down. As a result of privatization processes, trade and manufacturing cooperatives lost their importance too. Free market principles have also clearly limited institutional support for satisfying the needs of rural residents, especially in the social and public transport sphere.

In Poland the countryside is rapidly weakening its former economic and social functions. It could not be compensated by the gradually developing recreational

function of rural areas as a less expensive place of residence for urban residents (Eberhardt, 1989; Kantor-Pietraga, 2014; Wesołowska, 2018). This is accompanied by the so-called shrinking of the economic and social potential of rural areas in Poland due to a smaller number of inhabitants and changes in their structure in terms of age and source of income (Katsarova, 2008). The result of depopulation is a high and growing number of relatively small communes, especially rural communes. According to Wesołowska (2018, p.23) "nearly 22% of rural communes in the years 1950-2013 recorded a decrease in the population greater than 20%". Looking at the scale (i.e. incidence and depth) of depopulation in Polish conditions, it should be clearly realized that in the coming decades this problem would increasingly affect all spheres of life covered by communes.

In Hungary the proportion of people living in villages within the total Hungarian population, despite the numerical decrease, is around one third, which is not unusual in Central and Eastern Europe but is among the highest compared to the average of the pre 2004 European Union (Csatári, 2007; Kovách, 2012). There is an overlap between the concepts of village and rural communities, but there is a great deal of uncertainty in the interpretation of "rural" in both international and Hungarian literature (Csatári, 2007; Kovách, 2012; Kulcsár, 2017). A new study considers people living in both villages and in small towns to be rural and establishes their proportion at 54 percent within Hungarian society (Balogh and Kovách, 2021). Based on the analysis of long-term trends, according to Németh and Dövényi (2016), migration is increasingly determining the population development of the rural settlements. In addition to migration (Dövényi, 2009; Bálint, 2012; Gödri and Spéder, 2009; Németh and Dövényi, 2016), natural loss (Kulcsár and Obádovics, 2016; Bálint and Obádovics, 2018), the increasing number of formal urbanization and the decrease of the total Hungarian population (Kovách and Megyesi, 2018; Csurgó *et al.*, 2018) also contributed to the decades long rural depopulation trends.

## 2. *Depopulation in rural Poland and rural Hungary*

### 2.1. **Poland**

Despite the Western European trends Poland and other Central European countries experience so strong decrease in number of population that also majority of rural areas is affected by depopulation (Eberhardt, 1989; Kantor-Pietraga, 2014; Flaga, 2019; Wesółowska, 2018).

Total number of rural population in post-war Poland was relatively stable with the highest size in 1946 (16,023 M) and the lowest one in 1991 (14,512 M). In general, the first post-war decades were a period of rural population decline and later in 1990s a turning point was observed mainly due to suburbanization. But at the same time 23,010 villages and hamlets –among 41,466 ones existing in Poland– experienced a depopulation with loss of at least 5% population between 1950 and 2011, while only 14,134 increased their population by at least 5% and 3,322 developed with no bigger changes (+–5%) (Wesółowska, 2018).

It could be underline a low quality of Polish population registers which is determined by a common failure of obligatory migration registration. As result a number of factual residents of many local communities is overestimated by 5–10% with even higher levels in case of people aged 25–35 years (Ileszy ski, 2011). Real range and pace of depopulation are probably higher than estimated on basis of official population data.

Depopulation started in 1950s when the rural area of Poland was divided into two subregions: 1) northern and western part of the country (area incorporated after the WWII), Bieszczady and Beskidy mountains area (abandoned by Ukrainian, Lemek and Bojko minorities and settled by Polish immigrants), area at eastern border of the country and suburban areas where number of rural population increased; 2) areas of central part of the country wi tokrzyskie, Lubelskie and Podlaskie regions –where depopulation was observed (Gawryszewski, 2005). In 1960s population dynamics decreased due to industrialisation and urbanisation. The extent of depopulation areas significantly increased in 1970s reflecting mass migration to developing industrial cities and better developed regions (Eberhardt, 1989). Moreover, in the 1970s, pensions for individual farmers were introduced. This provided some social security for

older farmers from the state institutions. At the same time, it freed the young generation to some extent from the moral obligation to care for the older rural generation by continuing to work and by continuing to support the family farm. In the same decade, a sharp increase in number of shrinking towns (with population up to 20 thous.) was observed and it was a factor enhancing rural depopulation due to inability to find a job in neighbourhood in less developed subregions (Kantor-Pietraga, 2014). In general, the biggest decrease of rural population was observed in 1970s and 1980s despite positive natural increase.

Situation changed in 1990s with suburbanization and urban sprawl when a visible inflow to rural areas was emerging but still majority of villages and hamlets (65%) lost their population. Between the last two censuses (2002-2011), almost half of rural villages experienced population shrinkage (Wesołowska, 2018).

The presented above changes affect size and functional capacity of rural communities. First of all some dangerous changes in size are observed which could be treated as a perpetuating factor of the depopulation. In Wesołowska's study (2018) a strong relation between size of villages and hamlets and frequency and pace of depopulation was found. Young inhabitants of smaller villages are less able to start an own business in previous place of residents due to not satisfactory access to consumers. As result a bigger proportion of young residents is deciding to emigrate if they don't prefer to be farmers. At the same time, the small villages with no –or limited– access to commercial and public services are perceived as less attractive for youngsters and youth.

Majority of depopulating rural areas was affected by temporary population decrease. But there are a group of permanent "losers", i.e. villages where depopulation was observed in all inter-census periods and the scale of population loss is at least 5%. The villages were named by Wesołowska (2018) as "disappearing villages" and are located mainly in the former Congress Kingdom (part of country, which belonged to the Russian Empire in XIX century –now central and eastern part of Poland).

The area of the former Congress Kingdom is of special interest due to a specific spatial arrangement of households. Farms are scattered, non-adjacent neighbourhood each other with a typical distance between them equal to 200-300 meters. The depopulation means density decrease and the distance extension. Consequently, probability of neighbours' contact and support is lower and lower. Increasing spatial distance affects chances for self-solving problems related to population ageing –social isolation, loneliness, access to support.

As important consequence of the mentioned above, demographic changes a deformation of age profile of population should be mentioned. Long-term emigration shapes age structures affecting sharp decrease in proportion of children and youth and even sharper increase in proportion of the oldest olds (Szukalski, 2019). The age deformation means greater needs to develop age-specific care services with more institutional and semi-institutional services aimed at the elderly. Unfortunately, according to the Polish law costs of the services should be covered by communities and in case of peripheral rural areas maintained by obsolete agriculture the costs are impossible to be paid by local authorities.

The decrease in number of population is expected also in the future. According to a projection for local communities prepared by Statistics Poland in 2017 (GUS, 2017) 40.6% of communities will experience a loss of population by at least 5% to 2030 and 13.0% at least 10% with extremal expected losses by 20-25% in few communities located in Podlaskie and Lubelskie regions (eastern part of Poland). Depopulation will accelerate and economic, social and political problems related to the demographic changes will be more and more important.

## **2.2. Hungary**

According to the end-year population data, the population of Hungary decreased from 10,212,300 in 1995 to 9,797,561 by the end of 2016. During this period, the number of settlements (villages and towns together) in the country increased from 3,125 to 3,155.

The population of the villages fell to 2,894,854 by 2016, due to high rates of migration, natural loss and urbanisation. During this period, the number of villages fell from 2,931 to 2,809 due to administrative changes, and although 152 villages were declared towns in 21 years, new villages were also formed due to the separation of settlements.

In 1995 846,044 , while in 2016, 938,670 people lived in the settlements that had been declared towns between the two dates, so this administrative change is the primary reason for the decline in the rural population.

The population of villages with an unchanged administrative classification was more stable; 2,972,667 people lived in these villages in 1995 and 2,894,854 people in 2016, which means a decrease of only about 78,000 people. In addition, between 2000 and 2008, more people lived in these villages than in 1995.

Every year since 2006, there are many more villages with a declining than a growing population. In several years, the difference was double or even higher. According to the population dynamics indicator, there were 574 villages where the population increased, in 1,638 villages the population decreased at the average or less than the average level, and the population of 614 settlements decreased more than the average.

According to the migration balance, the target area of migration is mainly Central Hungary and Western Transdanubia, which, based on long time-series data, always means a general migration trend from east to west (Gödri and Spéder, 2009), i.e. domestic migration flows from more economically disadvantaged areas to more developed regions. The largest loss due to domestic migration affects Northern Hungary and the Northern Great Plain (Bálint and Gödri, 2015).

Indicators of population change according to the population of the villages clearly indicate that the villages with the smallest population are most at risk of emigration. About 80 percent of villages with less than 500 people are among the declining villages, and more than 50 percent of them have losses in excess of 20 percent. The larger the population of a village, the smaller the tendency of population decline, which also shows that changes in the population of villages also result in a rearrangement of population processes between smaller and larger villages. A significant proportion of the inhabitants of small villages do not migrate to the cities but to larger villages. Behind the relatively more stable population of settlements with continuous village status (loss of around 80,000 between 1995 and 2016), there is a dramatic rearrangement between villages. Small villages are losing their population at an accelerating rate, while the majority of larger villages tend to have an increasing trend. Of the 23 villages with more than 5,000 inhabitants, 18 have a growing population and 136 of the 372 villages with a population of between 2,000 and 4,999 have a growing population. Among the villages with a growing population, there are only 211 out of 1,769 with fewer than 1,000 inhabitants, while in more than three-quarters of this category (1,395) the population is declining. Examining the migration gap also supports mobility between villages and the strong migration loss of small villages. Settlements with less than 1,000 people lost more than 45,000 people due to internal migration processes.

The period of immigration between 1995 and 2005 increased the population of villages on the one hand and contributed to the deepening of inequalities amongst villages on the other. Immigration has increased the proportion of disadvantaged social groups in disadvantaged villages; many metropolitan agglomerations were settled, by many more active people with higher social capital. The total number of

migrations from and immigrations to villages is between 300,000 and 400,000 per year. It follows from this data, on the one hand, that rural local societies are by no means closed communities, and, on the other hand, that population movements of this magnitude have led to significant and continuous social stratification. The population of villages of 1,000 people, and especially those with less than 500 people, is rapidly declining, ageing, and becoming poorer and moving to larger villages, especially in metropolitan agglomerations, where urban depopulation also contributes to population growth. The radical differentiation (Kováč, 2012) between peri-urban and remote villages that has already been shown has continued in recent years, and the differences have hardened and hardly changed.

Job opportunities and income are among the determinants of migration/immigration and thus population change, but so are housing and liveability, as well as the motivating power of the underlying values and lifestyle patterns. In terms of housing and living conditions, however, two-thirds of villages are disadvantaged, and this is likely to accelerate population decline in lower-population villages and rural regions, from which migration to large villages and new towns may increase. All this can bring about a qualitative change: while the village population and the rural population, counted together with the newest and recent cities that are very slowly and ambiguously urbanising, may permanently account for half of Hungarian society while, after the disappearance of the traditional peasantry, the idyllic villages of the past may be substituted with a rural settlement quality of a completely different structure and composition.

### *3. State and municipal programs to prevent or reduce depopulation*

#### **3.1. Poland. Government programmes**

In the last 10 years the Polish government elaborated two main strategic documents: Poland 2030 (2012) and Strategy for Responsible Development (2017). Depopulation was not treated as a crucial demographic problem in the documents as population ageing. However in the second one attention was paid also to a phenomenon, which is co-occurring with depopulation – loss of attractivity by small and

medium-sized towns, especially by the so-called subregional centres (i.e. towns being centres for 100-150 thous. people). The problem is seen as important also in case of small towns, where social and technical revitalisation is treated as an important factor increasing their attractiveness and attractiveness of living in rural areas (Krajowa Polityka Miejska, National Urban Policy, 2015; Krzysztofik, 2019).

A lack of interest in "pure" rural depopulation, i.e. decrease in number of population living in villages in specific rural areas, is related to delay in an agricultural transformation and predominance of small (in terms of surface) farms. Depopulation is treated as "natural" measure to accelerate a transformation of structure and size of Polish farms.

Some specific actions aimed at – not obviously depopulating but peripheral – rural areas are undertaken by the National Rural Network (Krajowa Sieć Obszarów Wiejskich, <http://ksow.pl/en/ksow.html>). The network was created in 2008 due to EU regulations and is focused on:

- identification and analysis of good practices in rural development that can be transferred and transmission of information thereon;
- transfer of good practices, innovative projects and organization of the exchange of experiences and know-how;
- preparation of training programmes for LAGs under creation, including the exchange of experiences between Local Action Groups;
- network management;
- technical assistance for inter-regional and trans-national cooperation;
- support for inter-institutional cooperation, including international cooperation;
- exchange of knowledge and evaluation of rural development policy.

But it should be undermined the main activity of the network is focused on peripheral rural areas.

### **3.2. Poland. Regional and municipal programmes**

Problems related to depopulation at (sub)regional or local levels are present in all general strategic documents issued by regional authority due to legal

requirements, i.e. obligatory regional development strategies. But the documents are issued in situation of typical opposed demographic tendencies –depopulation of peripheral areas is co-occurring with increase of population living in capital cities and their suburbs. The population decrease was strongly undermined in some regional strategic documents of lower rung. Two Polish regions issued special documents devoted to the problem. The most depopulated Opole region created „Special Demographic Zone” and incorporated a programme called “Opole region for family” (<https://dlarodziny.opolskie.pl/>) to increase attractively of living in cities, towns, and villages of the region (Gerejczyk and Pilewicz, 2017).

The program of the special demographic zone encompasses four thematic packages, focused on: the enhancement of the attractiveness of the local labour market and the creation of entrepreneurship incentives (Package I: Work means a safe family), the adaptation of the educational curricula to the needs of the local labour market (Package II: Education and the Labour Market), the increase of accessibility of nurseries and kindergartens to facilitate the reconciliation of work and family life (Package III: Nursery and kindergarten care) and the social inclusion of the elderly and the provision of the adequate public services for this group (Package IV: Golden autumn). The programs undertaken by regional and local authorities were positively assessed by the Supreme Audit Office although it didn't change the demographic situation of the area (NIK, 2020).

In Opolskie region there is a special Program of Rural Renewal (Program Odnowy Wsi w województwie opolskim, <https://odnowawsi.opolskie.pl/o-programie/>) which is a type of technical support for local authorities in domain of creating and supporting local leaders to equip them with skills on planning actions, prioritising actions, and adjusting actions to owned resources. The main component of the programs are trainings on how to activate local societies, how to preserve their cultural, natural and culinary heritage. The program started in 1999 and for the period 22 thous. participants were trained due to 950 organized trainings and workshops. Almost 2 mln PLN (0,5 mln euro) were spent by the regional government to cover cost of the activities.

Another region with long-standing demographic problems –Łódź region– issued a “Plan for counteracting depopulation in Łódź region” focusing on development of social services for its inhabitants (Plan przeciwdziałania..., 2013, 2017). The second edition of the plan encompasses nine thematic packages focused respectively on: health and functional abilities of inhabitants, physical and financial safety, economic activity, educational activity (long-life learning), social and civil activity, cultural activity, antidiscrimination policies, ITC access, and silver economy. Unfortunately the

document was prepared rather as an inventory of actions undertaken or planned by institutions subordinated to the regional government and the only two new instruments introduced in the first years were a Senior Card and dissemination of universal design concept.

An interest in depopulation problems at regional level is increasing and the best measure is growing number of regional projects aimed at finding solutions to acknowledge, to adapt or to (counter)act the problems. The research were organized and financed by the following regions: Łódź, Opole, Małopolska, Varmia and Masuria, wi tokrzyskie and Podkarpackie. As result of the research some auxiliary, holistic reports focused on depopulation are issued (Programowanie ..., 2019a, 2019b, 2019c; I skie..., 2017).

But to be honest the most visible actions to acknowledge, to adapt or to (counter)act the population decrease are undertaken by local governments which are directly touched by all consequences of the population change. In below some of them are presented as answers to typical questions related to depopulation.

How to attract new inhabitants? The question is important to many local authorities but only some of them tried to find well-adjusted solutions. In Kurzetnik, a rural community located in Varmia and Masuria, the authorities decided to profit from a good location at a highway connecting two regional capital cities –Olsztyn and Toru ([https://dev.kurzetnik.pl/PL/3016/22/Dzialki\\_500\\_plus/k/](https://dev.kurzetnik.pl/PL/3016/22/Dzialki_500_plus/k/)). They decided to offer attractive building plots located in Szafarnia, a small village close to lakes and Brodnica Landscape Park, to old and especially new inhabitants but the measure is accessible only for beneficiaries of the governmental programme Family 500+<sup>1</sup>. The local community is trying to attract families with children what is assessed as especially profitable due to subsidies from national government to cover education costs. To attract new inhabitants the local authorities are developing services aimed at caring for young children (nurseries, kinder-gardens). At the same time multi-apartment buildings are constructed to meet housing needs of today and future inhabitants (Dereszewski, 2020).

How to create new extra-agricultural jobs? wi tokrzyskie region is one of the poorest and most touched by depopulation regions. Industry is developed only in its northern part. To create new jobs in rural areas a special program called " wi tokrzyskie

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1• The Family 500+ programme is a national programme of children benefits paid to all families with children under 18 years old.

–smithy of tastes" (wi tokrzyska ku nia smaków - <http://www.swietokrzyskakuzniasmakow.pl/>) started in 2013. The idea is based on chain of producers of traditional, regional food – 58 producers of eatables, 18 restaurants with regional food, and 11 farm offering regional food and accommodation. All members of the chain are using local products and are strengthening regional economy.

The second case related with the above question is Uniejów, small town in Łódź region. The authorities of the town decided to profit from unique natural resource – hot springs which were discovered in 2000's (<https://www.termyuniejow.pl/>). The thermal tourism was developed. Firstly a small indoor swimming pool was built with some rehabilitation services. Later in 2010s the authorities decided to develop services for families. A new huge complex of pools, saunas, restaurants and hotels was built. As result, the local community is now treated as attractive place to live due to good economic conditions and good situation on local labour market.

How to better meet needs of inhabitants in providing them with social services? The question is important due to changing age structure of people living in depopulating areas and limited access to social services for the elderly. In many local communities from Kujawsko-Pomorskie region a concept of the so called tutelary farm is developed (<http://www.opieka.kpodr.pl/pl/zielona-opieka/>). Small size farms possessing big houses are transformed into centres of daily residence for dependant older clients. Basic services are offered (alimentation, workshops, daily care, walking) to them and co-production of food and help with effortless activities in (fruit, vegetable) gardens or breeding are treated as a specific form of rehabilitation.

How to attract immigrants to peripheral areas? Local community Drelów in Lubelskie region is located close to the Polish-Ukrainian border. The community is rural and poor. Population of the community is declining for the last fifty years. The authorities of Drelów tried to attract immigrants focusing on repatriates, Poles living in Ukraine and Belarus. The authorities decided to rebuild an abandoned school to transform it into a residential building offered to immigrants. Preferences towards families with children are formulated to increase community population in the long period and to lower cost of education (scale effect). Before inviting the authorities try to find jobs for immigrants to make settling in easier<sup>2</sup>.

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2• Retrieved from: <https://www.dziennikwschodni.pl/biala-podlaska/gmina-kusi-repatriantow-ze-wschodu-dostana-prace-i-mieszkanie,n,1000213900.html> (10/03/2021).

It should be underlined the presented above example how to use an abandoned school is not a unique. In many local communities due to decreasing number of pupils, local authorities are facing

How to find new technological solutions, which should be introduced to improve quality of life? Tomaszów Lubelski, a small town located at the Polish-Ukrainian border, introduced a simple instrument to find out new technological tools. Assuming children are less "perverted" by traditional, existing solutions few meetings of the local authorities and schoolchildren were organized. The authorities asked the pupils how to ameliorate their life in the city and their preferences. As result a prototype of equipment for garbage selection was indicated as a good solution to make life better. Tomaszów Lubelski organized in the last months also a competition "Do you have a good idea for Tomaszów?" which was aimed at including inhabitants' brain-children in decision-making process.

### **3.3. Hungary. Government programmes**

The Hungarian Village Programme, launched in 2019, aims to increase the population retention capacity of depopulated Hungarian villages, providing direct subsidies to the municipalities of settlements with fewer than 5,000 inhabitants. The programme will provide pre-financing, without the obligation of own funds from local governments, which can be used for infrastructure development and service development (housing, transport and public services<sup>3</sup>). In 2020, a new element was added to the programme, the Village Civil Fund was established for local civil society activities and support for their conditions, primarily real estate investments, vehicle purchases, asset purchases, and the organisation of programmes..

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such problem. In Lubelskie region we could find many examples of rebuilding old school to create: apartments, penitentiary, chapel, or care and treatment facilities

<https://www.dziennikwschodni.pl/lubelskie/drugie-zycie-wiejskich-szkol-budynki-zamieniaja-min-w-mieszkania-socjalne-wiezienia,n,1000185082.html>

- 3• The thirteen target area the development of local community spaces; filling them with content, including church community spaces; the construction or renovation of nurseries; the construction or renovation of kindergartens; the renovation of urban roads; the renovation of urban pavements; the procurement of equipment for public space maintenance; the replacement of vehicles required for village caretakers and purchase of new vehicles for newly started services; cemetery improvements; the construction and renovation of medical offices; the purchase of medical equipment; the construction of medical doctors' service housing; the construction or renovation of service housing for kindergarten teachers and nursery carers; the construction of sports parks and the acquisition of sports equipment.

Housing subsidy for village families (CSOK) aimed at strengthening the population retention capacity of the countryside, began in 2019. This subsidy may be applied for in villages with a population of less than 5,000 and where the population has declined over the past decade. This measure affects approx. three-quarters of Hungarian villages (2,486 settlements). Under the programme, support can be applied for in order to construct or purchase a new home, as well as for the renovation of a home and the purchase and renovation of a second hand home. The measure makes the amount that may be applied for dependent on the number of children. Half of these amounts may be used to buy a home in the target village; the other half needs to be spent on renovation and modernisation. A loan with an interest rate of 3% may also be applied for in connection with the village CSOK. The village CSOK is conditional upon a continuous social security relationship of at least two years, children and / or children committed, and actual residence in the supported settlement. Excluding factors are unpaid public debt, a criminal record, and a social security relationship of inadequate length, or being under 18 years old. The property purchased with the subsidy cannot be sold for ten years; the same homes cannot be rented out, nor can others acquire the right of usufruct.

Secure Start Programme - Secure Start Children's Home. In a significant part of the villages, the disadvantages are cumulative and mutually reinforcing. The problem of poverty is further exacerbated by the economic and geographical isolation, making it virtually impossible for emerging new generations to break out of the poverty trap. The Secure Start programme was launched in 2009 and has become an effective development provided in villages to date. The aim is to develop locally necessary successful preventive programmes that can help break the intergenerational transmission of poverty in disadvantaged regions, micro-regions and municipalities. The programme is organised in settlements with a population of 1,000 to 4,000, where at least 50% of children receive regular child protection allowance).

To improve children's well-being, the programme will create local Secure Start Kids Centres that provide high-quality, integrated care for early childhood years in communities. Local centres serve a dual purpose as they provide support services for families of children under the age of five and for couples expecting a child in the framework of direct contact and cooperation with parents and children. Parental skills and knowledge may be developed in many ways: through information, practical guidance, in-home help, training, strengthening the parent-child relationship and developing parental competencies, mobilising community resources and the wider family. The programme provides the child and the parent with participation in joint programmes that provide a suitable development environment for the child, shape the

parent's knowledge and skills, and thus contribute to the child's higher quality care and upbringing. In the other case, it provides good quality day care due to the parent's employment or absence.

The primary target group of the programme is families living in disadvantaged micro-regions as well as in urban segregations. These settlements have the highest rate of relocation, with better-off families taking their children to educational institutions in other settlements. An additional benefit of the programmes is that children growing up in villages will be more active and integrated members of their local societies, which will help improve the quality of life and curb the emigration of better-off people.

Long-term programme of "convergence settlements" was launched in 2019. The 300 participating settlements were selected based on a comprehensive indicator developed by the state statistics, which takes employment, education, housing, income, crime and age structure into account. The target settlements are the 300 poorest and most disadvantaged villages with 270,000 people living in them, most of them of Roma origin. The methodological support of the whole programme is provided by the Hungarian Charity Service of the Order of Malta. The 2019 government decision also stipulates that the 30 settlements must be provided with the programme elements available within the infrastructural framework of the Hungarian Village Programme, Economic and social convergence is achieved through a professional presence, based on individual diagnoses, and the launch of long-term, targeted, practical and repeatable programmes with integrated interventions.

#### **3.4. Hungary. Municipal programmes**

In Hungary, local societies and local governments' lack of local development resources and their need for external (EU, state) subsidies severely delimit and limit their efforts to prevent or at least reduce depopulation through effective measures. They can mostly implement measures and programmes for which they can obtain external funding primarily in the form of a project. The two biggest delimiters of this are the centralisation of the project system and the lack of the intellectual and knowledge capital needed to write and manage projects in smaller settlements (Ray, 1998).

There has been a clear centralisation in the project-based allocation of development resources since 2010, which has significantly increased policy intervention through administrative management. As a result of the system of project

planning and the strengthening and tightening of administrative management and control, the efficiency of the resources used has decreased.

Reducing territorial disparities is a top political priority. Separate operational programmes, on which a significant amount has been spent in recent years, aim to reduce regional development disparities. The impact of spatial development projects is considered controversial in the literature (Czibere *et al.*, 2017; Horzsa, 2018; Timár and Nagy, 2019). Territorial inequalities decreased by a few percent, but development projects could not change the differences in employment across counties. The distribution of project amounts paid out does not show any specific correlation between the development and the need of the given region and the amount of project grants. The administration of the centralised application system is not capable of following the rapidly changing local conditions; it also has to follow the EU and domestic priorities of the project tenders, which do not necessarily correspond to real local needs. A significant part of the amount of support for projects, including those intended to reduce depopulation, needs to be paid for the work of the experts and not spent on the basic objectives of the project. For the previous reasons, local initiatives aimed at reducing depopulation are strongly connected to EU and state development programmes and projects. After 2010, the state also ousted a significant part of independent non-governmental organisations from rural support programmes, which were replaced by associations, foundations and institutions related to the church, the state and local governments. The attempt to counteract depopulation is primarily a top-down rather than bottom-up innovation in Hungary.

In line with national programmes, housing promotion is considered a priority by many municipalities to reduce depopulation. In recent years, attempts have been made to reduce rural depopulation by building new flats or renovating municipally owned houses and flats. Reconstruction of the buildings was carried out by the local workforce as far as possible. The flats are rented out for a few years for a low rent to young couples (for example in Szentlőrinc, Hajdúnánás, Mezberény and Fegyvernek) or elsewhere to large families. There was also an example of a village offering homes with gardens in Western Hungary to families with many children to save the local school from closure.

There are several aims and forms of priority support for younger age groups. In Deszk, for example monthly, non-refundable cash benefits are provided to all 18–35 year olds with a permanent residence declared in Deszk. Encouraging young people to stay local is similar in Tokaj, but there is also support for those who want to move in or work for local entrepreneurs. In Fegyvernek, scholarships are given to participants in

secondary and higher education, as well as to physicians. In Nagyatád, 12 career starters in bottleneck job vacancies receive monthly tax-exempt subsidies for two years.

The municipal organisation for food self-sufficiency, in addition to the social assistance of the poor, also aims to seek to counterbalance the population decline. In addition to the general instruments of social policy, social land programmes and newly established social cooperatives undertook to address rural poverty in Hungary. There are specific programmes in the country that aimed at poverty alleviation or tried to contribute to the management of poverty through community building actions and education, but these were mostly completed with the winding-up of the given project. In 1998, as the peak, 140,000 people in 240 municipalities participated in the programme (Bartal, 2001). After 1998, and especially after 2003, the programme came to a halt, received less support, and the number of participants also declined. Later, the number of participants increased slightly again, but the organisation of the programmes increasingly became the responsibility of local governments. The local administration provides land, seeds, small animals, machinery, plant protection and training to participants who produce food for their own consumption on individual plots assigned to them (Franklin *et al.*, 2017).

In another version of social food production that strengthens staying local, it is not self-consumption that is the primary goal, but employment and income generation. The work is performed by a community (a social cooperative, municipal or civic association-led work organisation), in most cases encouraged by a recognised leader with legitimacy. They produce for sale, the whole process of which is well managed along with selling. The work organisation has a community base. For example, horseradish is produced in Bagamér (Kóródi, 2001a), raspberries in tv skónyi (Herczeg, 2001) and cucumbers in Gacsály (Kóródi, 2001b), which require more manual labour.

Food produced with local labour may be included in *public catering*: in North-Eastern Hungary goat farming and the production of goat cheese (Tiszaadony); and organic farming launched for social purposes and local economic development combined with community building in Penyige and Rozsály (Lányi *et al.*, 2010) have led to success.

Local *environmental and sustainability projects* can also have impacts that may have an effect on the population's emigration, primarily through employment. Ildikó Asztalos Morell (2015) presented a LEADER project "ROMAFA", which aimed to address the energy poverty problems of a Roma community living in a small village in north-western Hungary through the production and use of biogas and the development of a waste management system employing the low-qualified unemployed. Although the

project has been less successful due to the social status of the marginalised, resource-less and knowledge capital deficient groups to be involved, the initiative could be a potential opportunity to increase environmental protection and local employment in the event of the required capacity increase.

#### 4. Discussion and comparison

The proportion of the rural population is much higher in both Poland and Hungary than in the western Member States of the European Union. In the first half of our paper, we presented trends in population decline in rural areas. The decline in the rural population in both Central European countries is also linked to the decline in the total population due to *demographic change and large-scale temporary or permanent emigration to other EU countries*. The rural depopulation has been ongoing for decades, partially offset by counter-urbanization with major regional disparities. In Hungary, in the small village regions, from where the population migrates to larger and suburban villages, and therefore the total number in the category of "rural population" decreases less. In Poland, population decline is particularly strong where smaller farms are in the majority. Depopulation is a regional phenomenon in the sense that there are large local differences in the balance of emigration and relocation of the population. This may also be the reason why national governments have introduced programs to reduce depopulation with *a relative delay*, rather only when emigration from rural small towns has also taken on greater proportions.

The aim of anti - depopulation programs in Poland is to *reduce the impact of out-migration* and rural demographic change, while also *promoting counter - urbanization* and the movement of urban dwellers to villages. In Hungary, emigration from cities to villages was strong in two periods. In the 1990s, urban losers of economic reconstruction moved to villages, while in the years near the turn of the millennium, those who acquired new property through urban housing privatization exchanged their urban flats for rural homes. In Hungary, therefore, facilitating *urban outflows is not a direct goal* of rural development programs.

Another difference in development goals is that in Hungary, long before the launch of programs against rural depopulation, there was a *strong concentration of land use and ownership* in European comparison, while in Poland *the decline in the*

*number of small, family farms* is ongoing and continues. Polish development projects therefore place much greater emphasis on *direct economic objectives and elements* that help those leaving the agricultural sector to integrate into the labor market. *Public works programs* started in Hungary after 2015 have significantly reduced rural unemployment, therefore the national Hungarian Village program has only an *indirect aim to intervene in the labor market*.

There are significant differences in the interpretation of *states involvement*. That in Poland, rural depopulation does not appear as a separate item in public development programs and visions. However, The Hungarian Village Program (2019) of the Hungarian government specifically allocated larger development funds for the purpose of direct intervention for the rural development, including the reduction of depopulation. Polish anti-depopulation programs are local or regional initiatives, while Hungarian is a highly concentrated development policy system, in which local actors (municipalities, NGOs, individuals) can obtain development funds in the form of projects from the state-controlled and managed system. The Hungarian solution is likely to allocate more money to mitigating the decline of the rural population, but it will leave *less autonomy* to implement it. It is precisely because of greater local and regional autonomy that the Polish system can be *more reflective and flexible*.

## 5. Concluding remarks

In the paper, we presented the main trends in the rural depopulation in the Polish and the Hungarian society and the government measures and local programs aimed at reducing them. Despite decades of decline, both Central European states have higher rural populations than European development centres.

Following the fall of the socialist system in 1990, economic liberalization and de-agriculturalisation accelerated the emigration of the rural population. In Poland, the proportion of the socialized sector in agriculture was much smaller before 1990, with the dominant form of farming being the family farm. Hungarian agriculture was almost completely collectivized. The production of cooperatives on state farms was supplemented by widespread part-time family farming, followed by rapid land privatization in the first years of post-socialism. De-agriculturalisation, despite the different

structural backgrounds, took place in both countries from the turn of the millennium to the present day, and rural depopulation accelerated.

In Poland, the eastern region is hit hard by rural migration, but it is projected that 40 percent of all settlements may have a declining population over the next two decades. In Hungary, the small - village counties of the north - east and the south of Transdanubia are the most endangered. The population of the smaller villages of a few hundred people moves mainly to the nearby larger villages, so the proportion of the rural population within the whole society changes less, but the depopulation of the small settlements accelerates. In Hungary, nearly 800,000 people, eight percent of the total population, live in small towns that were declared cities after 1990.

To counteract rural depopulation, following previous scattered local initiatives, governments have tended to formulate and launch programs only in recent years. In Hungary, local programs are strongly linked to government projects, while in Poland there are perhaps more initiatives by local societies and civil institutions. Projects launched to reduce depopulation are aimed at supporting younger age groups, creating jobs, expanding non-agricultural employment opportunities, solving housing problems, facilitating the relocation of urban dwellers, and improving social services, education and transport. The effectiveness of the programs will be measurable in the next decade, when projections are expected to increase the risk and challenges of rural depopulation.

## 6. References

- Balogh, K., and Kovách, I. (2021). Az örök falu – hanyatlás és fentmaradás. A községi népesség számának a változása. *Tér és társadalom* 35(1), 29-53 <https://doi.org/10.17649/TET.35.1.3300>
- Bálint, L., and Gödri, I. (2015). Belföldi vándorlás. In J. Monostori, P. ri, and Zs. Spéder (eds.), *Demográfiai Portré 2015* (pp. 171-185). KSH Népeségtudományi Kutatóintézet Budapest
- Bálint, L. (2012). Belföldi vándorlás. In P. ri, and Zs. Spéder (eds.), *Demográfiai Portré 2012* (pp. 126-136). KSH Népeségtudományi Kutatóintézet Budapest.
- Bálint, L., and Obádovics, C. (2018). Belföldi vándorlás 2018 In J. Monostori, P. ri, and Zs. Spéder (eds.), *Demográfiai Portré 2018* (pp.217-236). KSH Népeségtudományi Kutatóintézet Budapest.
- Bartal, A. M. (2001). A szociális földprogramok - avagy az aktív foglalkoztatás- és szociálpolitika alternatívái a rurális térségekben Budapest, Magyarország. Civitalis Egyesület.

- Csatári, B. (2007). Tények az európai és magyar vidékekről 2000 táján. In T. Kovács (ed.), *A vidéki Magyarország az EU-csatlakozás után* (pp. 59-68). MTA RKK, Pécs.
- Csburgó, B., Kovách, I., and Megyesi, B. (2018). After a long March: the results of two decades of rural restructuring in Hungary. *Eastern European Countryside* 24(1), 81-109.
- Czibere, I., Ger, M., and Kovách, I. (2017). Újraelosztás és integráció. In I. Kovách (ed.), *Társadalmi integráció: Az egyenlőtlenségek, az együttműködés, az újraelosztás és a hatalom szerkezete a magyar társadalomban Budapest, Magyarország* (pp. 1-116). Szeged, Magyarország: Belvedere Meridionale, MTA TK Szociológiai Intézet
- Dereszewski, W. (2020). Czynniki kształtujące procesy demograficzne w gminie Kurztal. In J. Hryniewicz, and G. Lusarz (eds.), *Depopulacja. Uwarunkowania i konsekwencje* (pp. 35-65). ZWS GUS, Warszawa.
- Dövényi, Z. (2009). A belső vándormozgalom Magyarországon: folyamatok és struktúrák. *Statisztikai szemle*, 87(7-8), 748-762.
- Eberhardt, P. (1989). *Regiony wyludniające się w Polsce*. Prace Geograficzne, 148.
- Flaga, M. (2019). *Model przemian demograficznych w regionach wyludniających się w Polsce na przykładzie województwa lubelskiego*, Wyd. UMCS, Lublin
- Franklin, A., Kovách, I., and Csburgó, B. (2017). Governing Social Innovation: Exploring the Role of 'Discretionary Practice' in the Negotiation of Shared Spaces of Community Food Growing. *Sociologia Ruralis*, 57(4), 439-458.
- Gawryszewski, A. (2005). *Ludność Polski w XX wieku*, IGI PAN, Warszawa.
- Gerejczyk, K., and Pilewicz, T. (2017). Special Demographic Zone in Poland – in search for the gist of the phenomenon. *Journal of Economics and Management*, 29(3), 37-57.
- Gödri, I., and Spéder, Zs. (2009). Belső vidéki vándorlás. In J. Monostori, P. Fehér, S. Molnár, and Zs. Spéder (eds.), *Demográfiai Portré 2009* (pp. 109-117). KSH Népeségstudományi Kutatóintézet, Budapest.
- GUS (Główny Urząd Statystyczny) (2017). *Prognoza ludności gmin na lata 2017-2030 (opracowanie eksperymentalne)*. Retrieved from: <https://stat.gov.pl/obszary-tematyczne/ludnosc/prognoza-ludnosci/prognoza-ludnosci-gmin-na-lata-2017-2030-opracowanie-eksperymentalne.10.1.html> (12/03/2021).
- Granberg, L., Kovách, I., and Tovey, H. (2001). *Europe's green ring*. Aldershot, UK, Ashgate.
- Herczeg, B. (2001). Málnatelepítés Ötvöskönyiben. In G. Havas (ed.), *Gazdálkodó cigányok Autonomia Alapítvány* (pp.57-78), Budapest.
- Horzsa, G. (2018). A fejlesztési környezet szerepe a belső vándorlás alakulásában. *socio.hu*, 8(3), 25-41. <https://doi.org/10.18030/socio.hu.2018.3.25>
- Kantor-Pietraga, I. (2014). *Systematyka procesu depopulacji miast na obszarze Polski od XIX do XXI wieku*. Wyd. UJK, Katowice.
- Katsarova, I. (2008). *Regiony wyludniające się: nowy paradygmat demograficzny i terytorialny. Studium*. Parlament Europejski. Bruksela. Retrieved from: [http://www.europarl.europa.eu/meetdocs/2004\\_2009/documents/dv/pe408928\\_ex\\_/pe408928\\_ex\\_pl.pdf](http://www.europarl.europa.eu/meetdocs/2004_2009/documents/dv/pe408928_ex_/pe408928_ex_pl.pdf) (12/03/2021).

- Kovács, I., and Megyesi, B. (2018). A vidék harminc éve. A magyar vidék alakulása az er források, a társadalmi t ke és fejlesztéspolitikai változásainak tükrében. *Erdélyi Társadalom*, 16(1), 83-104.
- Kovács, I. (2012). *A vidék az ezredfordulón: A jelenkori magyar vidéki társadalom szerkezeti és hatalmi változásai*. Budapest, Argumentum Kiadó.
- Kóródi, M. (2001a). Bagamér, a torma hazája. In G. Havas, G. (ed), *Gazdálkodó cigányok Autonómia Alapítvány* (pp. 11-30). Budapest.
- Kóródi, M. (2001b). Uborkatermesztés Gacsályon. In G. Havas, G. (ed), *Gazdálkodó cigányok Autonómia Alapítvány* (pp. 101-118). Budapest.
- Krzysztofik, R. (ed.) (2019). *Przemiany demograficzne miast Polski. Wymiar krajowy, regionalny i lokalny*. Instytut Rozwoju Miast i Regionów, Warszawa-Kraków, Retrieved from: [http://irmir.pl/wp-content/uploads/2019/11/IRM\\_Przemianydemograficzne\\_2019-10-14\\_www.pdf](http://irmir.pl/wp-content/uploads/2019/11/IRM_Przemianydemograficzne_2019-10-14_www.pdf) (12/03/2021).
- Kulcsár, L., and Obádovics, Cs., (2016). Népszégedinamika és társadalmi szerkezet. *Területi Statisztika*, 56(4), 390-414.
- Kulcsár, L. (2017). *A vidékfejlesztés elméleti megközelítése*. Kriterion Könyvkiadó, Pro Rurális Egyesület, Kolozsvár, Románia
- Lányi, A., Kovács, O., Lakatos, L., and Dezsény, Z. (2010). Fenntarthatósági kezdeményezések a Beregben és Szatmárban. In A. Lányi, and G. Farkas (eds), *Miért fenntarthatatlan, ami fenntartható?* (pp. 146-190). L'Harmattan, Budapest.
- Németh, Á., and Dövényi, Z. (2016). Magyarország településeinek népesedési típusai (1970-2011). In I. Pajtókné, and A. Tóth (eds.), *Magyar Földrajzi Napok 2016*. Magyar Földrajzi Konferencia, XVI. Geográfus Doktoranduszok Országos.
- NIK (Najwyższa Izba Kontroli – Supreme Audit Office) (2020). *Informacja o wynikach kontroli "Przeciwdziałanie depopulacji Opolszczyzny"*. Warszawa. Retrieved from: <https://www.nik.gov.pl/kontrola/P/19/093/LOP/> (12/03/2021).
- Plan przeciwdziałania depopulacji w województwie łódzkim (2017). *Plan przeciwdziałania depopulacji w województwie łódzkim*. Łód . Retrieved from: [https://rcpslodz.pl/images/Pobieranie/2017\\_03\\_27\\_Plan\\_przeciwdzialania\\_depopulacji\\_w\\_woj\\_lodzki\\_2020.pdf](https://rcpslodz.pl/images/Pobieranie/2017_03_27_Plan_przeciwdzialania_depopulacji_w_woj_lodzki_2020.pdf) (12/03/2021).
- Plan przeciwdziałania depopulacji w województwie łódzkim (2013). *Plan przeciwdziałania depopulacji w województwie łódzkim*. Rodzina, dzieci, praca, Łód . Retrieved from: <https://rpo.lodzkie.pl/images/prawo-i-dokumenty/Plan-przeciwdziaania-depopulacji-w-wojewdzctwie-dzkim.pdf> (12/03/2021).
- Programowanie działań zaradczych w zakresie depopulacji dla województwa wi tokrzyskiego (2019a). *Programowanie działań zaradczych w zakresie depopulacji dla województwa wi tokrzyskiego*, Kielce. Retrieved from: <http://repozytorium.uni.lodz.pl/handle/11089/31710> (12/03/2021).
- Programowanie działań zaradczych w zakresie depopulacji dla województwa opolskiego (2019b). *Programowanie działań zaradczych w zakresie depopulacji dla województwa*

- opolskiego, Opole. Retrieved from: <http://repozytorium.uni.lodz.pl/handle/11089/31711> (12/03/2021).
- Programowanie działań zaradczych w zakresie depopulacji dla województwa warmi sko-mazurskiego (2019c). *Programowanie działań zaradczych w zakresie depopulacji dla województwa warmi sko-mazurskiego*, Olsztyn. Retrieved from: <http://repozytorium.uni.lodz.pl/handle/11089/31709> (12/03/2021).
- Ray, C. (1998). Culture, intellectual property and territorial rural development. *Sociologia Ruralis*, 38(1), 3-20.
- Starosta, P., Kovach, I., and Górlach, K. (1999). *Rural Societies under Communism and Beyond. Hungarian and Polish Perspectives*, Łódź University Press, Łódź .
- Szukalski, P. (2019). Depopulacja - wybrane konsekwencje dla lokalnej polityki społecznej. *Polityka Społeczna*, (10), 10-15.
- Łódźskie (2017). *Wyzwania demograficzne. Koncepcja polityki przeciwdziałania negatywnym zmianom demograficznym, depopulacji i starzeniu się społeczeństwa w województwie łódzkim*. Katowice. Retrieved from: <https://www.slaskie.pl/content/koncepcja-polityki-przeciwdzialania-negatywnym-zmianom-demograficznym-depopulacji-i-starzeniu-sie-spolenczenstwa> (12/03/2021).
- Leszyński, P. (2011). Oszacowanie rzeczywistej liczby ludności gmin województwa mazowieckiego z wykorzystaniem danych ZUS. *Studia Demograficzne*, 2(160), 35-58. Retrieved from: <http://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.desklight-70cbb2d0-aa49-4313-b8dd-3c277721e192> (12/03/2021).
- Timár, J., and Nagy, E. (2019). Állam és tértermelés: „új” értelmezési keretek a tértudományokban - Szerkesztői előszó. *Tér és Társadalom*, 33(4), 3-16.
- Wesołowska, M. (2018). *Wsie zanikające w Polsce. Stan, zmiany, modele rozwoju*, Wyd. UMCS, Lublin.

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Conceptualization	20 %	30 %	20 %	30 %
Data curation	10 %	30 %	25 %	35 %
Formal analysis	15 %	35 %	15 %	35 %
Funding acquisition	0 %	0 %	0 %	0 %
Investigation	10 %	40 %	10 %	40 %
Methodology	0 %	50 %	0 %	50 %
Project administration	0 %	60 %	0 %	40 %
Resources	0 %	50 %	0 %	50 %
Software	0 %	0 %	0 %	0 %
Supervision	0 %	60 %	0 %	40 %
Validation	0 %	50 %	0 %	50 %
Visualization	0 %	80 %	0 %	20 %
Writing – original draft	10 %	40 %	10 %	40 %
Writing – review & editing	20 %	30 %	20 %	30 %

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